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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,586	07/24/2001	Regina Schmitt	2000 P 14826 US	4362

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PATENT DEPARTMENT
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NEW YORK, NY 10036

EXAMINER

THAI, CUONG T

ART UNIT	PAPER NUMBER
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2173

DATE MAILED: 03/30/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/911,586

Applicant(s)

SCHMITT ET AL.

Examiner

CUONG T THAI

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jul/24/2001 Prel. Amendment A.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 33-64 is/are pending in the application.
- 4a) Of the above claim(s) 1-32 is/are withdrawn from consideration.
- 5) ☒ Claim(s) None is/are allowed.
- 6) ☒ Claim(s) 33-38, 40-54 and 56-64 is/are rejected.
- 7) ☒ Claim(s) 39 and 55 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

PART III. DETAILED ACTION

1. This action is responsive to Preliminary Amendment filed on July 24, 2001.
2. Claims 33-64 are presented for examination. Claims 1-32 have been canceled without prejudice.
3. The drawings filed on July 24, 2001 have been reviewed and approved.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claim 33 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 18 of co-pending Application No.09/911,585. Although the conflicting claims are not identical, they are not patentably distinct from each other because the subject matter claimed in the instant application is fully disclosed in the copending application and is covered by the copending application since the instant application and the copending application are claiming common subject matter on programming motion controller that incorporates with graphical elements, subprograms, and programming languages conversions.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim 33 of instant application is broader and anticipated by claim 19 of the application Serial No. 09/911,585.

Claim Objections

6. Claim 42 is objected to because of minor informality. It is suggested that applicants replace "the method according to claim 42" with " the method according to claim 41" because the claim cannot depend on itself.

7. Claim 63, line 3, is objected to because of minor informality. It is suggested that applicants replace "a educed form" with " a reduced form".

8. Claim 55, the citation "for" in line 1 should be deleted.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

10. Claims 34-35, 38, 40, 43, 49 and 54 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 34, the antecedent basis for "the structured textual language" in line 3 is not clear. It is unclear whether "the structured textual language" is the same as the textual language referenced to in claim 33 or to some other entirely different language. For the purposes of examination on the merit below, "the structured textual language" is interpreted to mean the same as "the textual language".

Claim 35 recites "the graphical elements" in line 1 and "the motion control flowchart" in line 2. There is insufficient antecedent basis for the limitations in the claim.

Claim 38 recites "the motion control flowchart notation" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 40 recites "the function blocks" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim 43 recites "the function blocks" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 49 recites "the flowchart editor" in line 12. It is not clear whether "the flowchart editor" is the same as the graphical editor or it is referring to an entirely different

editor. For the purposes of examination on the merit below, "the flowchart editor" is interpreted to mean the same as "the graphical editor".

Claim 54 recites "the language elements" in line 1. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 33-35, 45-47, 49-51 and 61-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinhofer (USPN: 6,442,442) in view of Zhang et al. (USPN: 6,282,699) hereinafter Zhang.

As per claim 33, Weinhofer discloses a method for programming an industrial controller as the technique of Fig. 1 illustrates an overview of an industrial control system 10 that is programmed using a programming interface (see col. 5, lines 13-15), the method comprising the steps of:

creating a flowchart including a plurality of commands with the use of a graphical editor is taught by Weinhofer as the technique of creating a flowchart of a sequential programming interface including commands of Initiate P-Cam 1, Initiate Move 1, and

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Initiate Move 2 (see Fig. 3) and when the user program is displayed to a user, the user program comprises the graphical elements (see col. 3, lines 63-64).

Weinhofer, however, does not disclose the steps of: generating a textual language based on the flowchart, converting textual language into a processor-independent pseudo-code, loading the processor-independent pseudo-code into the controller, and converting the processor-independent pseudo-code into an executable whereby such commands may be executed.

Chang discloses the steps of generating a textual language based on the flowchart, converting textual language into a processor independent pseudo code, loading the processor independent pseudo code into the controller, and converting the processor independent pseudo code into an executable whereby such commands may be executed as the technique of the user creates a data flow program referred to as a block diagram (see col. 3, lines 6-7), the CIN is a block diagram node associated with a section of source code written in a conventional program language, i.e., text code (see col. 3, lines 47-49), and the user compiled the source code first and linked it to form executable code (see col. 3, lines 49-50).

It would have obvious to one having ordinary skill in the art at the time the invention was made to include Zhang teachings of generating a structural textual language from the flowchart, converting the structural language in to a processor-independent pseudo code, loading the processor-independent pseudo code into the controller, and converting the processor-independent pseudo code into executable code into that of Weinhofer's invention. By doing so, the system would be enhanced by

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allowing user to create human language from the flowchart prior to sending it to the controller for converting to machine executable code. Thus, it would provide an efficient way for language conversion in the system.

As per claim 49, Weinhofer discloses a device for programming an industrial control system, in particular motion controllers as the technique of motion controllers may for example be provided in the form of modules for a programmable controllers system (see col. 1, lines 47-48), wherein control structures and function blocks are linkable by a user via a graphical editor to form a motion control flowchart that can be visualized on a display device is taught by Weinhofer as the technique of when the user program is displayed to a user, the user program comprises the following graphical elements (see col. 3, lines 63-64) of the preferred programming interface 100 comprises a plurality of icons 110-124 which are made available to a user in a workspace 107 and which are connected by the plurality of connection lines 126. The icons 114 and 116 represent motion control axes, the icon 110 and 112 represent motion commands (see col. 6, lines 13-19 and Fig. 2) to form a motion control flowchart (see Fig. 3).

Weinhofer also discloses wherein programming language commands are provided in the flowchart editor as a function of the configuration of at least an aspect of the control system as the technique of creating a flowchart of a sequential programming interface including commands of Initiate P-Cam 1, Initiate Move 1, and Initiate Move 2 (see Fig. 3).

Weinhofer, however, does not disclose the limitations of: generating a textual language from the flowchart, compiling the textual language in a processor-independent pseudo-code, loading the processor-independent pseudo-code into the controller, and converting the processor-independent pseudo-code into executable code.

Chang discloses the limitations of generating a textual language from the flowchart, compiling the textual language in a processor-independent pseudo-code, loading the processor-independent pseudo-code into the controller, and converting the processor-independent pseudo-code into executable code as the technique of the user creates a data flow program referred to as a block diagram (see col. 3, lines 6-7), the CIN is a block diagram node associated with a section of source code written in a conventional program language, i.e., text code (see col. 3, lines 47-49), and the user compiled the source code first and linked it to form executable code (see col. 3, lines 49-50).

It would have obvious to one having ordinary skill in the art at the time the invention was made to include Zhang teachings of generating a textual language from the flowchart, compiling the textual language in a processor-independent pseudo-code, loading the processor-independent pseudo-code into the controller, and converting the processor-independent pseudo-code into executable code into that of Weinhofer's invention. By doing so, the system would be enhanced by allowing user to create human language from the flowchart prior to sending it to the controller for converting to machine executable code. Thus, it would provide an efficient way for language conversion in the system.

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As per claims 34 (method) and 50 (device), Weinhofer discloses the invention substantially as claimed above. While Weinhofer discloses graphical elements as the technique of when the user program is displayed to a user, the user program comprises the graphical elements (see col. 3, lines 63-64). Weinhofer, however, does not disclose the limitation of wherein graphical elements comprising function interfaces of corresponding subprograms are generated in flowchart notation from user-defined subprograms of the structured textual language.

Zhang discloses the limitation subprograms are generated in flowchart notation from user-defined subprograms of the structured textual language of as the technique of the textual code may be code from a text-based language, such as Perl, Mathematics or Java, or may be code such as C, C++, Pascal, Fortran, Cobol (see col. 4, lines 10-13) and during the execution of the graphical program, the code node is operable to invoke execution of the textual code comprised in the code node (see col. 4, lines 18-20).

It would have obvious to one having ordinary skill in the art at the time the invention was made to include Zhang teachings of subprograms are generated in flowchart notation from user-defined subprograms of the structured textual language into that of Weinhofer's graphical elements programming invention. By doing so, the system would be enhanced by allowing user to create human program language prior to implementing it in a graphical structure program. Thus, the system would provide graphical based programming interface to its end user.

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As per claims 35 (method) and 51 (device), Weinhofer discloses the invention substantially as claimed above. Weinhofer discloses the graphical elements as the technique of when the user program is displayed to a user, the user program comprises the following graphical elements (see col. 3, lines 63-64) and motion control flowchart as the technique of the user program includes a first icon which represents the first motion control system, a second icon which represents the second motion control system (see col. 3, lines 65-67). Weinhofer, however, does not disclose the limitation of wherein the graphical elements comprise language elements for forming the motion control flowchart.

Zhang discloses the limitation of wherein the graphical elements comprise language elements for forming the motion control flowchart as the technique of the method for creating the graphical program includes the user selecting a code node for inclusion in the graphical program, wherein the code node is displayed on the screen. The user then selects or enters textual code that is comprised in or displayed in the code node. The textual code may be code from a text-based language, such as Perl, Mathematics or Java, or may be code such as C, C++, Pascal, Fortran, Cobol, etc., or may be a script from a scripting language (see col. 4, lines 10-13).

It would have obvious to one having ordinary skill in the art at the time the invention was made to include Zhang teachings of wherein the graphical elements comprise language elements for forming the motion control flowchart into that of Weinhofer's invention. By doing so, the system would be enhanced by allowing user to write any possible language into graphical elements. Thus, the system would provide graphical based of programming language to its end user.

As per claims 45 (method) and 61 (device), the limitation of graphical elements are automatically positioned is taught by Weinhofer as the technique of programming interface 100 provides the user with a workspace 107 and make available a plurality of icons that can be dragged into the workspace 107 (see col. 6, lines 29-32). These claims are therefore rejected for the reason as set forth above.

As per claims 46 (method) and 62 (device), the limitation of wherein graphical elements of the flowchart are automatically linked together is taught by Weinhofer as the technique of programming interface 100 comprising a plurality of icons 110-124 which are make available to the user in a workspace 107 and which are connected by a plurality of connection lines 126 (see col. 6, lines 14-17). These claims are therefore rejected for the reason as set forth above.

As per claims 47 (method) and 63 (device), the limitation of wherein the flowchart is adopted to be displayed in a form selected from the group consisting of an enlarge form and a reduce form are taught by Weinhofer as the technique of reduces the total number of icons that may be displayed on the screen at any one time (see col. 7, lines 7-8) and such that the workspace is actually larger than what fits on the user's screen at one time (see col. 7, lines 12-14). These claims are therefore rejected for the reason as set forth above.

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13. Claims 36-37 and 52-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinhofer (USPN: 6,442,442) in view of Zhang et al. (USPN: 6,282,699) hereinafter Zhang and further in view of Stripf et al. (USPN: 6,263,487) hereinafter Stripf.

As per claims 36 (method) and 52 (device), Weinhofer-Zhang discloses the invention substantially as claimed above. Weinhofer-Zhang, however, does not disclose the limitation of wherein the structured language comprises structured text according to IEC 6-1131.

Stripf discloses structured text according to IEC 6-1131 as the technique of with a programming unit, a user creates a control program in the form of a contact plan, a function plan, an instruction list or in any other suitable form, such as describes in the IEC 1131 standard (see col. 2, lines 47-50).

It would have obvious to one having ordinary skill in the art at the time the invention was made to include Stripf teaching of structured text according to IEC 6-1131 into that of Weinhofer-Zhang combined invention. By doing so, the system would be enhanced by working in proper regulation of International Electrotechnical Commission (IEC regulation) for translating program structure from human textual language into machine language. Thus, the system would operate in IEC regulation and yield excellent result to its end user.

As per claims 37 (method) and 53 (device), Weinhofer-Zhang discloses the invention substantially as claimed above. Weinhofer-Zhang, however, does not disclose

the limitation of wherein a user can switch between structured textual language, contact plan and function plan as forms of representation for formulating conditions.

Stripf discloses the limitation of wherein a user can switch between structured textual language, contact plan and function plan as forms of representation for formulating conditions as the technique of with a programming unit, a user creates a control program in the form of a contact plan, a function plan, an instruction list or in any other suitable form, such as describes in the IEC 1131 standard (see col. 2, lines 47-50).

It would have obvious to one having ordinary skill in the art at the time the invention was made to include Stripf teachings of wherein a user can switch between structured textual language, contact plan and function plan into that of Weinhofer-Zhang combined invention. By doing so, the system would be enhanced by allowing user to switch between three forms of representation based on user desired choice.

14. Claims 38, 44, 54 and 60 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinhofer (USPN: 6,442,442) in view of Zhang et al. (USPN: 6,282,699) hereinafter Zhang and further in view of DeBenedictis et al. (USPN: 6,144,984) hereinafter DeBenedictis.

As per claims 38 (method) and 54 (device), Weinhofer-Zhang discloses the invention substantially as claimed above. Weinhofer-Zhang, however, does not disclose the limitation of wherein the motion control flowchart notation comprises at least one of the group consisting of loop and parallel branch language elements.

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DeBenedictis discloses the limitation of wherein the motion control flowchart notation comprises at least one of the group consisting of loop and parallel branch language elements as the technique of control enters at block 501 with no argument. Block 502 performs the initialization shown in table V. block 503 starts a loop over all the tasks in the network application (see col. 11, lines 43-45) and control enters at block 901 with implicit reference to a connection, i.e., the flowchart has access to data in one connection and variables in table III. Conditional 902 follows the data parallel branch if the task at both ends of the connection are data parallel (see col. 17, lines 22-25).

It would have obvious to one having ordinary skill in the art at the time the invention was made to include DeBenedictis' teaching of wherein the motion control flowchart notation comprises at least one of the group consisting of loop and parallel branch language elements into that of Weinhofer-Zhang combined invention. By doing so, the system would be enhanced by allowing user to perform command selection wherein the command selection performed by the user will execute in either loop or parallel branch in motion control flowchart based on user's desired choice.

As per claims 44 (method) and 60 (device), Weinhofer-Zhang discloses the invention substantially as claimed above. Weinhofer-Zhang, however, does not disclose the limitation of wherein function blocks representing functions requiring a given period of time comprise step-enabling conditions in motion control flowchart.

DeBenedictis discloses the limitation of function blocks representing functions requiring a given period of time comprise step-enabling conditions in motion control

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flowchart as the technique of conditional 504 determines if the task is ready for execution by executing the process in Fig. 6. If Fig. 5 is being used as part of a simulation, argument t is changed to a time value by the process in Fig. 6, otherwise t is irrelevant (see col. 11, lines 46-49 and see Figs. 5-6).

It would have obvious to one having ordinary skill in the art at the time the invention was made to include DeBenedictis' teaching of function blocks representing functions requiring a given period of time comprise step-enabling conditions in motion control flowchart into that of Weinhofer-Zhang combined invention. By doing so, the system would be enhanced by providing conditional timing parameter for controlling flowchart.

15. Claims 40 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinhofer (USPN: 6,442,442) in view of Zhang et al. (USPN: 6,282,699) hereinafter Zhang and further in view of Wilson et al. (USPN: 6,289,252) hereinafter Wilson.

As per claims 40 (method) and 56 (device), Weinhofer-Zhang discloses the invention substantially as claimed above. Weinhofer-Zhang, however, does not disclose the limitation of wherein parameters for the function blocks are set via a mask input.

Wilson discloses the limitation of wherein parameters for the function blocks are set via a mask input as the technique of the commands are generally indicative of state changes performed by the batch server program state machine with operator input and other control input and parameters (see col. 14, lines 43-47).

It would have obvious to one having ordinary skill in the art at the time the invention was made to include Wilson teaching of wherein parameters for the function blocks are set via a mask input into that of Weinhofer-Zhang combined invention. By doing so, the system would be enhanced by allowing user to input control parameter for controlling motion controller.

16. Claims 41-42 and 57-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinhofer (USPN: 6,442,442) in view of Zhang et al. (USPN: 6,282,699) hereinafter Zhang and further in view of Schwenke et al. (USPN: 6,553,268) hereinafter Schwenke.

As per claims 41 (method) and 57 (device), Weinhofer-Zhang discloses the invention substantially as claimed above. Weinhofer-Zhang, however, does not disclose the limitation of wherein function blocks are combined into modules that are represented as function blocks in motion control flowchart.

Schwenke discloses the limitation of wherein function blocks are combined into modules that are represented as function blocks in motion control flowchart as the technique of one type of module specification is a module "list" which allows zero or more component modules of a specific type (see col. 15, lines 62-64) and representing the modules as function blocks in motion control flowchart (see Fig. 18).

It would have obvious to one having ordinary skill in the art at the time the invention was made to include Schwenke teaching of wherein function blocks are combined into modules that are represented as function blocks in motion control

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flowchart into that of Weinhofer-Zhang combined invention. By doing so, the system would be enhanced by allowing user to define function blocks module in the flowchart controller.

As per claims 42 (method) and 58 (device), Weinhofer-Zhang discloses the invention substantially as claimed above. Weinhofer-Zhang, however, does not disclose the limitation of wherein interleaved modules are provided in motion control flowchart.

Schwenke discloses the limitation of wherein interleaved modules are provided in motion control flowchart as the technique of child modules are plugged into their designating parent modules (see col. 15, lines 57-58).

It would have obvious to one having ordinary skill in the art at the time the invention was made to include Schwenke teaching of wherein interleaved modules are provided in motion control flowchart into that of Weinhofer-Zhang combined invention. By doing so, the system would be enhanced by allowing user to define functional layers of block module in the flowchart controller.

17. Claims 43 and 59 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinhofer (USPN: 6,442,442) in view of Zhang et al. (USPN: 6,282,699) hereinafter Zhang and further in view of Stine (USPN: 6,466,827).

As per claims 43 (method) and 59 (device), Weinhofer-Zhang discloses the invention substantially as claimed above. Weinhofer-Zhang, however, does not disclose the limitation of wherein a plurality of variable assignments are supported for variables in function blocks represented in flowchart.

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Stine discloses the limitation of wherein a plurality of variable assignments are supported for variables in function blocks as the technique of each relay ladder object 66 maps to a different set of variables (see col. 9, lines 1-2).

It would have obvious to one having ordinary skill in the art at the time the invention was made to include Stine teaching of wherein a plurality of variable assignments are supported for variables in function blocks into that of Weinhofer-Zhang combined invention. By doing so, the system would be enhanced by allowing control program executed on a standard computer, which control blocks/objects through its variables.

18. Claims 48 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinhofer (USPN: 6,442,442) in view of Zhang et al. (USPN: 6,282,699) hereinafter Zhang and further in view of Lavallee et al. (USPN: 4,852,047) hereinafter Lavallee.

As per claims 48 (method) and 64 (device), Weinhofer-Zhang discloses the invention substantially as claimed above. Weinhofer-Zhang, however, does not disclose the limitation of wherein the textual language comprises facilitating re-transaction to flowchart notation.

Lavallee discloses the limitation of wherein the textual language comprises facilitating re-transaction to flowchart notation as the technique of thereafter, upon recompiling, the program illustrated in Fig. 2B is executed via the system of Fig. 1, with the simple editing having been accomplished through the addition of an additional set of blocks in the displayed flowchart (see col. 9 line 66 to col. 10 line 2).

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It would have obvious to one having ordinary skill in the art at the time the invention was made to include Lavallee teaching of wherein the textual language comprises facilitating re-transaction by recompiling flowchart notation into that of Weinhofer-Zhang combined invention. By doing so, the system would be enhanced by providing most update information to an end user.

Reason for Allowance

19. Claims 39 and 55 are objected as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

20. The following is an examiner's statement of reasons for allowance:

Examiner carefully considered claim 39 of the presented application. Claim 55 has been objected to for the same reasons applied to claim 39, except for device instead of method claim. None of the cited arts of record including Schwenke et al. (USPN: 6,553,268), Stine (USPN: 6,466,827), Weinhofer (USPN: 6,442,442), Zhang et al. (USPN: 6,282,699), Wilson et al. (USPN: 6,289,252), Stripf et al. (USPN: 6,263,487), DeBenedictis et al. (USPN: 6,144,984), Lavallee et al. (USPN: 4,852,047) discloses nor suggests a method for programming an industrial controller, wherein the controller executes interpolation cycle and individual commands are initiated in a given interpolator cycle within a respective parallel branch. Specially, Fair et al. (USPN: 3,668,653) and Quarton (USPN: 4,074,281) are cited for interpolator cycle control. None of them

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discloses wherein the controller executes interpolation cycle and individual commands are initiated in a given interpolator cycle within a respective parallel branch.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

21. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Applicant is required under 37 C.F.R. 1.111(c) to consider these references fully when responding to this action. The documents cited therein teach a method for linking structure objects and modules in graphical programming of motion in industrial controller.

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to CUONG T THAI whose telephone number is (703) 308-7234. The examiner can normally be reached on 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W. Cabeca, can be reached at (703) 308-3116.

The fax numbers for the organization where this application or proceeding is assigned are as follows:

(703) 746-7238 (After Final Communication)

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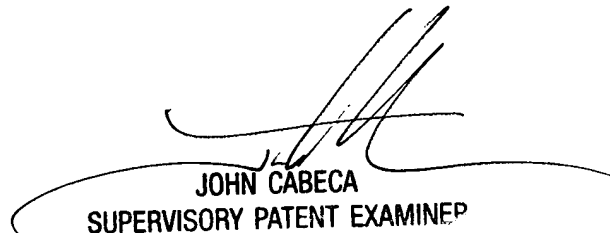
(703) 872-9306 (Official Communication)

(703) 746-7240 (For status inquiries, Draft Communication).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-8000.

CUONG T THAI
Examiner
Art Unit 2173

March 15, 2004.



JOHN CABECA
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